

Amendments to the Claims

The current listing of the claims replaces all previous amendments and listings of the claims.

1. (Canceled)

2. (Previously Presented) A fuel assembly, comprising:

a bottom nozzle configured to be disposed on a lower plate of a nuclear reactor;

a top nozzle including a hold down spring configured to urge the bottom nozzle toward the lower plate;

a plurality of control rod guide tubes configured to guide control rods, passed through the top nozzle toward the lower plate; and

a thimble screw locked to the bottom nozzle at a seat with a rotation preventive pin to connect the control rod guide tubes to the bottom nozzle, the thimble screw comprising

a drain hole extending in a longitudinal direction from a spot facing hole of the seat to a distal end and configured to receive coolant supplied into the drain hole from the spot facing hole toward the distal end while the nuclear reactor operates and to receive coolant supplied into the drain hole from the distal end toward the spot facing hole during a scram mode, and a coolant collision portion at a drain hole side of the rotation preventing pin against which the coolant flowing from the distal end toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

3. (Canceled)

4. (Original) A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

5. (Canceled)

6. (Currently Amended) A fuel assembly, comprising:

a bottom nozzle configured to be disposed on a lower plate of a nuclear reactor;

a top nozzle including a hold down spring configured to urge the bottom nozzle toward the lower plate;

a plurality of control rod guide tubes configured to guide control rods, passed through the top nozzle toward the lower plate; and

a thimble screw locked to the bottom nozzle at a seat with a rotation preventive pin to connect the control rod guide tubes to the bottom nozzle, the thimble screw comprising

a drain hole extending in a longitudinal direction from a spot facing hole of the seat to a distal end and configured to receive coolant supplied into the drain hole from the spot facing hole toward the distal end while the nuclear reactor operates and to receive coolant supplied into the drain hole from the distal end toward the spot facing hole during a scram mode, the drain hole having a first large inner diameter portion at a distal end side, a second large inner diameter portion at a seat side, and a small inner diameter portion between the first and the second large inner diameter portions at a seat side, the spot facing hole disposed on the seat side.

7. (Previously Presented) A fuel assembly according to claim 6, wherein the thimble screw comprises a coolant collision portion provided at the seat, against which the coolant flowing from the distal end toward the spot facing hole collides to increase pressure drop of the coolant during the scram mode.

8. (Canceled)

9. (Currently Amended) A fuel assembly ~~according to claim 7~~, comprising:
a bottom nozzle configured to be disposed on a lower plate of a nuclear reactor;
a top nozzle including a hold down spring configured to urge the bottom nozzle
toward the lower plate;
a plurality of control rod guide tubes configured to guide control rods, passed through
the top nozzle toward the lower plate; and
a thimble screw locked to the bottom nozzle at a seat with a rotation preventive pin to
connect the control rod guide tubes to the bottom nozzle, the thimble screw comprising
a drain hole extending in a longitudinal direction from a spot facing hole of the
seat to a distal end and configured to receive coolant supplied into the drain hole from the
spot facing hole toward the distal end while the nuclear reactor operates and to receive
coolant supplied into the drain hole from the distal end toward the spot facing hole during a
scram mode, the drain hole having a large inner diameter portion at a distal end side and a
small inner diameter portion at a seat side, the spot facing hole disposed on the seat side,
wherein the thimble screw comprises a coolant collision portion provided at the seat,
against which the coolant flowing from the distal end toward the spot facing hole collides to
increase pressure drop of the coolant during the scram mode,
wherein a collision surface of the coolant collision portion against which the coolant
collides forms a flat surface.

10.-22. (Canceled)